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DECEMBER 15, 1863.

JAMES HUNT, ESQ., PRESIDENT, IN THE CHAIR.

The minutes of the previous meeting were read and confirmed. The following new Fellows were elected: John Lister, Esq., Bayswater; Francis Drake, Esq., Leicester; J. W. Walton, Esq., 21B, Savile Row.

The thanks of the Society were voted to the following gentlemen for donations to the Library and Museum:—Proceedings of the Soc. Antiquaries, London, by the Society; Flint Arrow-heads, by Dr. Royston Fairbank; McHenry's Cotton trade, by the author; Proceedings of the Geologists Association, by the Society; Memoire de la Chevelure, etc., by Dr. Pruner-Bey; Transactions of the Geological Society of Glasgow, by the Society; Sir C. Nicholson on the Australian Colonies, by Professor Tennant; Memoires de la Société d'Anthropologie, by the Society; Owen on the Aye-aye, by C. Carter Blake; one hundred and nineteen works on Anthropology, by the President of the Society, Dr. James Hunt.

The following papers were then read:

On Crystal Quartz Cutting Instruments of the Ancient Inhabitants of Chanduy (Near Guayaquil in South America). Found by Mr. Spruce. By CLEMENTS R. MARKHAM, Esq., Hon. Sec. Royal Geographical Society.

The three ancient cutting instruments of the former inhabitants of Chanduy, at the mouth of the river Guayaquil in South America, (now exhibited) are chips of transparent quartz crystal. One of them is broken.

These crystal lance heads and knives are found all over the country, from the point of Santa Elena to the town of Guayaquil; but it is near the latter place that they occur in greatest abundance, chiefly on certain low mounds, laid bare by the winter rains. A French apothecary, named Reyre, took scores of them to Paris a few years ago.

The present specimens were found by Mr. Spruce near the little town of Chanduy, on the sea shore, in *middings*, or refuse heaps similar to those in Denmark. These *middings* consist chiefly of fragments of pottery, and of sea shells of four species, an oyster, a mussel, a cockle, and a large heavy bivalve, beautifully fluted, and with a remarkably thick bevelled edge, called by the inhabitants *pié de burro*. The latter shell is not now found on the coast near Chanduy.

The formation of the land round Chanduy, is precisely the same as that of the coast of Peru—land recently upraised from the sea—the uppermost strata being shell marl, lower down calcareous grit, but all containing only recent shells.

The point to which I would wish to draw attention, in regard to these quartz crystal cutting instruments, is that the people of this country, when the Spaniards first discovered it, were using bronze

cutting instruments. That mentioned by Humboldt as having been found near Cuzco, is composed of metal, containing 0·94 of copper, and 0·06 of tin; and, in describing it, he remarks that everywhere in the old continent, also, at the beginning of the civilisation of nations, the use of copper mixed with tin (*χαλκος*) prevailed over that of iron. The old inhabitants of South America, at the time of the Spanish conquest, were, therefore, passing through their age of bronze, and had not yet entered upon their age of iron. In the present state of our information, it would be unprofitable to discuss their origin; but they may fairly be considered to have been indigenous to the American continent, to be, by many ages, a younger race than any of those in the old world, and to have been, by slow unsteady steps, working their way towards a higher civilisation when the Spanish invasion suddenly destroyed their separate existence.

Three centuries ago, then, they were in a stage of development analogous to that through which the old world races had passed many centuries earlier, and which is now called the *bronze age*. But these quartz crystals seem to prove that at some much earlier period, when the refuse heaps of Chanduy were made, there had been a *stone age* preceding the *bronze age* of the South Americans, just in the same order as these successive epochs are believed to have occurred in the history of the European races; and it is from this circumstance that, I believe, any interest that may be attached to these relics, will arise.

It is worth while to mention that the district where these quartz crystal instruments and refuse heaps are met with, including the point of Santa Elena, is famous for having been the locality where huge fossil bones have been found from time immemorial. Among the ancient inhabitants, these bones gave rise to a tradition, that a monstrous race of giants once landed at the point of Santa Elena, and were afterwards destroyed by God for their wicked enormities. In the middle of the sixteenth century, when the adventurous young traveller and chronicler Pedro Cieza de Leon visited this part of the country, he heard the tradition of the giants from the mouth of Indians. He adds, in order to prove the truth of the story, that he knew Spaniards who had seen part of a tooth weighing half a butcher's pound, and a shin bone of marvellous size, both found near the Point of Santa Elena. Mr. Spruce tells me that the bones of large mammals are still found near Chanduy, chiefly along the coast, where portions of the cliffs are continually falling in; and that a French naturalist, named Berthier, carried off some large teeth a few years ago. There is a deposit of similar bones on the banks of the Chambo, a league from Kibamba, in the Quitenian Andes, where an English naturalist, named Fraser, made excavations in 1858, which were continued by Dr. Garcia Moreno, the President of the Republic of Ecuador; and amongst other fossils a *scapula*, quite entire and of gigantic size, was dug up. These bones of extinct mammals are probably of the same genera as those found in the analogous diluvial deposits at Tarija in Bolivia, which have been described by Castlenau and others, namely, of mastodons, glyptodons, megatheria, &c.

The fossils of Point Santa Elena have not, to my knowledge, been scientifically reported upon; but it will be very interesting if, as is probable, evidence should be hereafter adduced to show that these gigantic mammals existed on the recently upraised beaches of the west coast of South America, contemporaneously with the people who made the refuse heaps and quartz crystal knives of Chanduy. Such a discovery would throw back the *stone age* of this people to a far more distant period than the other evidence before us would seem to indicate.

I may remark, in passing, that an author named Ranking, who wrote in 1827, founded his fantastic theory that Peru and Mexico were conquered by Mongols accompanied by elephants, chiefly on the fossil bones and tales of giants in the neighbourhood of Point Santa Elena.

That in the earliest ages of man's history all advances in the useful arts were extremely slow and gradual; that incredibly long intervals of time elapsed before even a slight improvement was made in the form of an arrow head, is, I believe, a generally received opinion. It is not until civilisation has reached an advanced stage, that discoveries begin to follow each other rapidly; while, in man's more primitive state, he remains almost in the same condition for many centuries, and advance is slow and almost imperceptible. Archbishop Whately, indeed, goes so far as to declare that the evident inability of savage nations to make any progress in the arts, is a perfectly satisfactory proof that man would never have become civilised but for a special revelation.

There is nothing improbable, therefore, in the supposition that the descendants of the people who sat on the refuse heaps and used quartz crystal knives while megatheria and mastodon still wandered over the South American continent, had only, after the lapse of countless centuries, reached a civilisation which is represented by bronze chisels, grotesque pottery, and rude gold and silver ornaments, when the Spaniards first landed on their shores.

That the skill and taste of these people, the inhabitants of the coast near Guayaquil and of the neighbouring islands of Puna and Muerto, was far from contemptible at the latter date, is proved by a very interesting discovery made on the latter island about three years ago, an account of which has been sent me by Mr. Spruce. The remains which were then found would certainly indicate no mean degree of civilisation, and I propose to conclude this paper with a very brief account of one or two of them. It will show to what point the descendants of the chippers of quartz crystal had attained, when they were overwhelmed by the Spanish conquest. One of the objects was a small statue, six or eight inches high, of pure gold, and very creditably sculptured. But by far the most curious was an ornament, consisting of several thin plates, almost like a lady's muslin collar in size and shape, and covered with figures. One of these ornaments has perhaps a hundred figures of pelicans, the sacred bird of these people according to the local tradition. Every figure represents the bird in a different attitude, and, as they have been stamped, not engraved, a separate die must have been used for each figure. They are all of gold, but some of them with a considerable alloy of silver.

These interesting relics were found by the lighthouse man on the island of Muerto, in an ancient burial place, and sold by him to Mr. Reiss, the Prussian Consul at Guayaquil, who is since dead.

The PRESIDENT said, that these crystal quartz instruments were of considerable interest, and he believed that similar ones had never before been described. It was most important to endeavour to correlate these instruments with those used in other countries. He thought that they represented some of the flint implements found in the Old World, and if the substance of which they were composed was taken into consideration, they would bear a great analogy with the obsidian knives of Mexico. He agreed with the author of the paper, that the finding of these implements in America did not in any way favour the relationship of the races of the Old and New World. He was, however, inclined to believe that the identity in the shape of these implements showed a connection of ideas between the Old and New World. When Cortez visited America the inhabitants were, no doubt, using bronze implements; but had they arrived at this civilised act by their own innate development? Was it not more likely to suppose that they held communication with Europeans during the bronze age, but had no communication since? As to Dr. Whately's theory, that it required a special revelation for science, he was ready to admit that some savage races were quite incapable of dragging themselves out of their barbarous condition, or of inventing any of the arts of civilised life: but he contended that there are races who *are* capable of inventing a civilisation, and who are able to give "special revelations" to some of the inferior races.

Mr. S. E. B. BOUVERIE-PUSEY agreed with the statement of Archbishop Whately, that there was no case on record of any race ever having civilised themselves. Had we any right to suppose there ever existed a race who were capable of doing so? He saw that it was quite impossible for any of the existing savage races to become civilised, except by continued contact with the superior races.

Dr. BERTHOLD SEEMANN would prefer not to introduce Archbishop Whately's argument. He thought that the broken pottery alluded to indicated a state of civilisation far above the state of the lowest savage. The art of preparing food so as to be cooked was one which required some time for its development, and he was not surprised that the aborigines of Ecuador had the same detestation of "cold dinners," which was possessed by higher races. Even the most simple culinary operation, like the preparation of the Australian "damper," required much care throughout the process, and such comparatively complicated operations as the acts of steaming food, or preparing soup, necessitated the attainment of an average degree of civilisation. He alluded to the descriptions by Mr. Bollaert of pottery from Tarapacá, which resembled the pottery from Ecuador.

Mr. JAMES REDDIE remarked, that the object in question might possibly have been used for sacrifices, or for some other religious purpose. The act of first preparing the iron or bronze must have required a vast interval of time before it could have been successfully brought into operation.

Mr. G. E. ROBERTS stated that there was no historical or geological evidence of the contemporaneity of man with *Megatherium* and *Megalonix* in South America. The evidence on that point appeared to him to be very weak.

Mr. CARTER BLAKE called attention to the tradition of the existence of various mythological beings, the giants of Ecuador and of Bolivia, as *e.g.* at Tarija. The tradition of the *cayporé* of Brazil might possibly indicate a dim remembrance of the *Protopithecus* of the Postpliocene. Careful ascertainment of the past history of individual tribes was a desideratum. At Chiriquí the "stone age" had possibly passed through several stages of development.

Sir CHARLES NICHOLSON, V.P., remarked, that the existence of the tradition *per se* really went for nothing, until we had more determinate evidence. He described the shell mounds of the Malays at length, of which the historical age was uncertain.

Notes upon the Discovery of Mammalian Bones Cut and Saun by Implements of Flint at Audley End (Essex). By GEO. E. ROBERTS, Esq., F.A.S.L.

In the course of railway works between Audley End and Saffron Walden, it became necessary to divert the course of the River Cam into a part of the meadow land bounding the stream, which was traditionally known as "the old river bed." A cutting about 20 feet deep through this, necessitated for the foundation of a wide and large culvert, to give passage to the river through the railway embankment, disclosed the following section :—

Section of the Ground at the River Cam.

Soil; 1·0 deep.

Clay ; 3·0 deep.

Peat; 12·0 deep.

* * * * * Bones.

Gravel.